

DOCUMENT RESUME

ED 188 128

CS 005 485

AUTHOR Martin, Jeanne
TITLE Differences in Teacher-Student Interactions Within Reading Groups.
INSTITUTION Texas Univ., Austin. Research and Development Center for Teacher Education.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
REPORT NO R&D-4092
PUB DATE [79]
CONTRACT OB-NIE-G-80-0116
NOTE 28p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classroom Communication; Elementary Education; Grade 1; Observation; *Reading Achievement; *Reading Research; Student Characteristics; *Student Teacher Relationship; *Teacher Attitudes; *Teacher Behavior

ABSTRACT

Data on 17 first grade teachers and 305 students in 45 reading groups were used to examine the relationships between teacher behaviors, their classification of their students, and student reading achievement. The teachers were asked to rank their students on six characteristics: confidence, obedience, extroversion, good seatwork habits, teacher liking, and teacher concern for the student. These teacher ratings were compared to teacher behaviors during one school year. Additional analyses were used to determine the relationship between teacher ratings and student reading achievement, using reading test scores at the beginning and end of the school year. Students with the characteristics of obedience, good seatwork habits, and teacher liking answered more questions correctly and called out answers less often than disobedient students with poor seatwork habits. Teachers provided more response opportunities, criticism, and terminating feedback to disobedient students with poor seatwork habits, and fewer response opportunities, less criticism and less terminating feedback to obedient students with good seatwork habits. Five of the teacher ratings of students were consistently related to student achievement. Teacher concern was negatively related to achievement, while obedience, good seatwork habits, teacher liking, and confidence were positively related to student achievement. Student extroversion was not related to achievement.

(RI)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED188128

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Differences in Teacher-student
Interactions Within Reading Groups

Jeanne Martin

Research and Development Center
for Teacher Education

The University of Texas at Austin

R&D Rep. No. 4092

This paper was produced within the Classroom Organization and Effective Teaching Project, The Research and Development Center for Teacher Education, University of Texas at Austin, and was supported in part by the National Institute of Education Contract OB-NIE-G-80-0116. The opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education and no official endorsement by that office should be inferred.

CS0054P5

Differences in Teacher-student Interactions Within Reading Groups

In the last few years a number of teacher effectiveness studies have examined the relationship of teacher behaviors to student achievement. Several critical teacher behaviors have been identified in this research, such as the frequency with which the teacher contacts individuals, the nature of the interactions (whether academic, behavioral, or social), the difficulty level of questions, and the type of feedback given to student answers. Most of these studies, however, have used class means as the unit of analysis. This avoids the problem of dependence of units which arises when student scores are pooled across classes, but is not a very satisfactory solution if one is interested in individual student data. As Brophy (Note 1) has pointed out, most teacher behaviors are directed to individual students rather than the whole class. Even when directed toward the whole class, differences among students may influence the outcome of the teachers' behavior. Therefore, analyzing the relationship between teacher behaviors and student achievement using student scores may reveal considerably more information about the dynamics of the classroom than can be determined with class mean analyses alone.

A few teacher effectiveness studies which have used the student as the unit of analysis will be discussed here. These studies were concerned with determining whether the teacher treated students differently depending upon certain student characteristics and, in order to investigate this question, the authors ignored the problem of nonindependence and pooled student scores across classes. Nonetheless, the results from these studies provide some important insights into the relationships between students and teachers. Silberman (1969), Jenkins (1972), Good and Brophy (1972), and Evertson, Brophy, and Good (1973) had teachers rate students on the following: attachment (If you could

keep one student another year for the sheer joy of it, whom would you pick?), concern (If you could devote all your attention to a child who concerned you a great deal, whom would you pick?), indifference (If a parent were to drop in unannounced for a conference, whose child would you be least prepared to talk about?), and rejection (If your class was to be reduced by one child, whom would you be relieved to have removed?). These researchers then examined teacher behaviors to determine whether teachers responded differentially to these students. The results across all studies were fairly consistent.

Concern students had higher rates of interaction with the teacher and were praised more often by the teacher. The teacher also showed a greater tendency to give the answer or move on to someone else when concern students did not answer an initial question correctly, and when the teacher did stay with them, they tended to give a clue or some form of help rather than simply repeating the questions.

Rejection students had higher frequencies of all kinds of interactions with their teachers and tended to get both more praise and more criticism. In general, rejection students had more behavior problems and were generally more active in the classroom than their peers.

Attachment students were generally seen as bright, conforming, and rewarding to teachers, but there were no discernable differences in the interaction patterns of these students with the teacher, i.e., no evidence of gross teacher favoritism. However, there was some evidence that teachers tried to minimize their contacts with attachment students; perhaps in response to the greater tendency for these students to initiate contacts with the teacher themselves.

Indifference students were mainly characterized by low rates of interaction with their teachers. A general summary of these studies and their results is available in Brophy and Good (1974).

In summary, there appears to be some evidence which suggests that teachers do respond differentially to their different students, although this differential treatment is much more apparent for some types of students than for others. However, additional studies which are more rigorous methodologically are needed to confirm these results.

Another issue related to that of differential treatment of students concerns the desirability of such differential treatment. It is possible that differential treatment of students based on certain student characteristics is advantageous because differential treatment may lead to greater student achievement. As Good and Power (1975) point out, teacher behaviors which are optimal for promoting achievement for one student may not be optimal for another. In other words, as students differ on many important characteristics, it is possible that the same teacher behavior may have quite different effects on different students. For example, outgoing students may be motivated more by criticism than praise, and introverted students may be motivated by praise and may tend to withdraw from the learning situation when criticized.

This paper reports further analysis of a large data base, the First-grade Reading Group Study (Anderson, Evertson, & Brophy, 1979), in which data were collected on the teachers' interactions with individual students while those students participated in reading groups. This same data base was used by Martin, Veldman, and Anderson (Note 2) to demonstrate a method for using students as the unit of analysis while avoiding the problem of statistical dependence. To accomplish this, they analyzed student scores within reading groups and analyzed reading group means within classes, thus avoiding the

problems encountered by pooling scores across groups and classes. This same method of analyzing problems of dependence was used in the study presented in this paper.

In the study presented here, teachers were asked to rank their students on six characteristics: confidence, obedience, extroversion, good seatwork habits, teacher liking, and teacher concern for the student. These teacher ratings were then related to teacher behaviors to determine whether teachers were treating students within reading groups differently on the basis of these characteristics. Some additional analyses were done to determine whether the teacher's ratings were related to achievement when the pretest and the teacher behaviors were held constant. It was hypothesized that these analyses would help determine the effect of student characteristics as perceived by the teacher on both the teacher's behavior toward individual students in the classroom and to student achievement.

Method

Overview

The First-grade Reading Group Study was an experimental study that tested the effectiveness of a model containing 22 principles of small group instruction. Ten treatment teachers agreed to apply the model when teaching their reading groups. Ten control teachers were not given the instructional principles. All 20 teachers were observed teaching reading groups throughout the year.

The Metropolitan Readiness Test was given at the beginning of the school year. A Total Readiness score was computed from six subscale scores and was used in all analyses as the pretest measure. The reading subtests of the Metropolitan Achievement Test, Level I, were given at the end of the year. Two

subtests were used to create a Total Reading score, which was the posttest measure of student achievement in all analyses reported here.

Classroom observations were recorded with a low-inference coding system developed specifically for the study. Only data describing academic interactions with individual students initiated by the teacher during reading group instruction are reported in this paper.

The methodology and results of the study are completely described in Anderson, Evertson, and Brophy (Note 3).

Subjects

Data were collected on 20 teachers in six middle-SES schools serving a predominantly white population in an urban district in the Southwest. The original sample of 20 teachers was reduced in order to obtain a consistent set of data for the analyses presented in this paper. It was necessary to have a data set that contained observation scores recorded for students while they participated in a single reading group throughout the year. However, there was student mobility between groups, some students had incomplete data, and some teachers formed new groups that existed for only a few observations. Hence, the results presented in this investigation are based on a subset of the original sample. Students with incomplete test data were not considered. Reading groups that were observed less than six times or contained less than four students were eliminated from analysis.

The original data set consisted of 20 classes, 67 reading groups, and 540 students. This final data set consisted of 17 classes, 45 reading groups, and 305 students. Of the 17 classes, nine were treatment classes and eight were control classes. The number of reading groups in each class varied from two to four with a mean of 2.7 groups per class. The number of students in each reading group varied from four to 13 with a mean of seven students per group.

Data Collection

Four observers were trained to use the observational coding system. Every observer coded with every other observer until 80% agreement was reached on each major section of the coding system. After this time, observers worked alone. Each of the 20 teachers was seen by two observers who alternated visits to classrooms, beginning in November and continuing about once a week through April, so that each class was observed 15 to 20 times during the year. At the end of the school year after observations had ceased, teachers were asked to rank their students on six student characteristics.

Independent Variables

The teacher behavior variables reported here were chosen because they represented the four major components of an academic interaction between the teacher and an individual student: selection of student, questioning by the teacher, the students' answer, and the teacher's response to the answer.

Proportion variables for these teacher behaviors were created from several categories of the observation system. Frequencies of single categories (e.g., the number of correct answers) were summed across all observations for each unit of analysis (teachers, groups, and students). Then, these frequencies were used to create proportions representing actual occurrences compared to maximum possible occurrences (e.g., the proportion of all answers that were correct answers). These proportion variables are listed in the tables.

Dependent Variables

The teachers ranked each of their students on six scales or continuums. Both ends of the continuum for each of the six scales were described as follows:

- 1) Had confidence in work and ability, not afraid to respond in reading group versus Lacks confidence in work and ability, afraid to respond in reading group,
- 2) Outgoing, extroverted versus Keeps to self, introverted, 3) Obedient,

well-behaved, cooperative versus Disobedient, a behavior problem, uncooperative, 4) Good seatwork habits out of group, usually completes seatwork versus Poor seatwork habits out of group, seldom completes assignments, 5) Would like to have in class again for the sheer joy of it versus Will be relieved to have out of class at end of year, and 6) Am very concerned about the child, would like to be able to devote more time and attention versus Have no special concern about child, feel no need to devote extra attention to.

The top two students in each class were given a rating of 1 and the next four students were given a rating of 2. The bottom two students in each ranking were given a rating of 5 and the four students next to the bottom two students were given a rating of 4. The students not listed at either end of the scale were assumed to fall somewhere in between and were given ratings of 3.

Data Analyses

The first series of analyses involved six sets of regression models which were evaluated for each of the 15 teacher behavior variables. In all models, students were the unit of analysis and binary vectors denoting reading group membership were included so that student scores were, in effect, analyzed within reading groups. The full model used in these analyses is presented below:

$$TB = TRS + G1 + \dots + G45 + E$$

where TB = the teacher behavior variable

TRS = the teacher rating of student

G1+...G45 = binary vectors denoting reading group membership.

The R^2 was computed for the full model given above and for a model in which the TRS term was deleted. By comparing the drop in R^2 for these two models, it was possible to determine whether, within reading groups, the teacher ratings of students were significantly related to teacher behavior. This model

comparison was repeated six times for each teacher behavior, once for each of the six teacher ratings of students.

A second series of analyses was performed in this study to determine the relationship of the teacher rating of students to student achievement with pretest held constant. Six sets of regression equations were evaluated, one set for each of the six teacher ratings. In all models, students were the unit of analysis and binary vectors denoting reading group membership were included so that, in effect, student scores were analyzed within reading groups. The full model used in these analyses is presented below:

$$ACH = PRE + TRS + G1 + \dots + G45 + E$$

where ACH = total reading achievement test score

PRE = total reading readiness or pretest score

TRS = the teacher rating of students

G1+...+G45 = binary vectors denoting reading group membership.

The R^2 was computed for this full model and for a model in which the TRS term was deleted. By comparing the drop in R^2 it was possible to determine whether, within reading groups, the teacher ratings were significantly related to achievement with the pretest held constant.

Results

The results for the analyses that related teacher ratings of students to teacher behaviors are shown in several tables. Table 1 contains results for teacher behaviors related to student obedience, Table 2 contains those related to good seatwork habits, Table 3 those related to the teachers' liking of the student, Table 4 those related to student confidence, Table 5 those related to student extroversion, and Table 6 contains results for teacher behaviors related to teacher concern for the student. In each of these tables, there were a

number of teacher behaviors that were significantly related to the teacher rating.

Table 7 contains an intercorrelation matrix for the teacher ratings of students. From this table, it is apparent that these ratings are not independent. Obedient students also tend to have good seatwork habits and to be liked by the teacher. Students who are confident are also frequently outgoing. Finally, students that the teacher is concerned about tend to lack confidence and to have poor seatwork habits. Therefore, the results for these teacher ratings will be discussed in the grouping presented above, rather than separately.

Students whom the teacher rated as obedient had fewer response opportunities and called out answers less often than students rated as disobedient. Obedient students also answered more questions correctly and when they did answer incorrectly, they were less likely to be criticized than disobedient students.

Students whom the teacher rated as having good seatwork habits also had fewer response opportunities and called out answers less often than those rated as having poorer seatwork habits. Good seatwork students answered more questions correctly and when they did answer a question incorrectly, they were less likely to receive criticism and terminating feedback than poor seatwork students.

Similarly, students the teacher expressed liking for had fewer response opportunities, fewer call outs, and less terminating feedback to incorrect answers than students the teacher would like to have had removed from the classroom.

In summary, it appears that obedient students with good seatwork habits who were liked by the teacher answered more questions correctly and called out

answers less often than disobedient students with poor seatwork habits. The greater number of correct responses for these students is not surprising as obedient students with good seatwork habits are more likely to be paying attention and focusing on the lesson being presented than disobedient students with poor work habits. Similarly, calling out answers out of turn is a form of disobedience and therefore, students rated as disobedient would be expected to show more of this behavior than those rated as obedient.

The teacher provided more response opportunities, criticism, and terminating feedback to disobedient students with poor seatwork habits and fewer response opportunities, less criticism, and less terminating feedback to obedient students with good seatwork habits. There may be several reasons for this differential treatment. The teacher may use response opportunities as a method for controlling disobedient students by forcing them to attend to the lesson, while obedient students may follow along on their own without special prompting from the teacher. Calling on disobedient, poor seatwork students more frequently would also provide students with more opportunity to practice skills and the teacher may feel that these students need more practice because they gave more incorrect answers than obedient students with good seatwork habits.

The greater amount of criticism and terminal feedback given to disobedient students with poor seatwork habits may represent an attempt by the teacher to deal with individual student differences. That is, the teacher may use criticism to try to motivate the disobedient, poor seatwork habit students, but may feel that motivation is not particularly a problem for the obedient students with good seatwork habits (or that criticism is not a valid method for motivating such students). It is also possible that the greater amount of criticism received by these disobedient students is a direct result of the

greater number of incorrect answers given by these students, i.e., the teacher may criticize a certain proportion of all incorrect answers but because these students answer more questions incorrectly, they receive more criticism. Finally, teacher criticism may be merely a reflection of the more negative feelings that the teacher has towards these students as disobedience and poor seatwork habits were traits associated with dislike by the teacher.

The teacher may have terminated the response opportunities of the disobedient students with poor seatwork habits more frequently because of a belief that these students would be unable to figure out the correct answer if they did not know it immediately. Hence, the teacher might have been attempting to avoid wasting class time. Conversely, the teacher may have felt that the obedient students with good seatwork habits would be more likely to figure out the answer given more time and/or clues.

Students the teacher rated as confident were called on less often by the teacher than students rated low on confidence when the method of selection was either ordered turns or nonvolunteer selection. However, confident students called out more answers and were more often called on as volunteers than students who lacked confidence. Confident students also answered more questions correctly but received less teacher praise.

Students rated as outgoing or extraverted were given more reading turns and were called on less often when the teacher was using ordered selections. But these outgoing students also called out more frequently. Outgoing students also answered more questions correctly than more introverted students.

Ratings of confidence were highly correlated with ratings of extraversion indicating that students who were confident were frequently outgoing and vice versa. Consequently, the behaviors that were significantly related to these two teacher ratings were similar. Teachers tended to call on confident, outgoing

students less often, but these students tended to call out answers more often. Perhaps the teacher was compensating for the tendency of the confident, outgoing students to call out answers by calling on these students less. The teacher also may have been attempting to concentrate attention on the introverted students who lacked confidence in an attempt to get them involved in the lesson.

Outgoing, confident students also answered more questions correctly. Possibly, confidence in the classroom is related to achievement and if so, confident students would be expected to answer more questions correctly. However, it could also be that confident, outgoing students are more likely to venture a guess even if they are not sure of the answer, while more introverted students who are lacking in confidence may fail to respond rather than risk giving an incorrect answer.

Confident students were also praised less often for correct responses than students who lacked confidence. If praise is a method for encouraging students, it would be more reasonable for the teacher to praise students who lacked confidence, as these students obviously need more encouragement.

Teacher concern was strongly negatively correlated with student confidence and good seatwork habits, i.e., students the teacher expressed concern about were generally lacking in confidence and had poor seatwork habits. These students had more response opportunities, were more often selected by teachers to respond by either preselection or nonvolunteer selection, and less often volunteered answers or called out answers than students who were not of special concern to the teacher. These concern students also answered more questions incorrectly and were more often given terminating feedback to incorrect responses.

The teacher expressed her concern for these students in the reading group by providing them with more response opportunities and by calling on them more frequently as nonvolunteers. Part of the criteria used by teachers to nominate students who were of special concern was whether the teacher would like to be able to devote more time and attention to these students. Accordingly, these results indicate that the teacher may be trying to provide special attention to concern students by providing them with more response opportunities and calling on them more frequently.

The teacher was also likely to terminate response opportunities for students who were of special concern when they responded incorrectly. This seems somewhat contrary to the desire expressed by the teacher to spend more time with these students. However, the teacher may feel that these students need more attention than can be given in a group setting and are unlikely to be able to figure out correct answers on their own. Hence, the teacher may simply provide the answer for these students and move on to other material. The fact that these students do answer more questions incorrectly lends some support to this hypothesis.

The second set of results concerning the relationship of teacher ratings to student achievement is shown in Tables 8 through 13. Five of the teacher ratings of students were consistently related to student achievement. Confidence was positively related to achievement, obedience was positively related to achievement, good seatwork habits were positively related to achievement, teacher liking was positively related to achievement, and teacher concern was negatively related to achievement even with pretest scores held constant. Student extraversion was not related to achievement.

In summary, confident, obedient students with good seatwork habits tended to achieve more than expected on the basis of pretest scores. Students with good

work habits and those who are obedient are probably going to have more opportunity to learn than disobedient students with poor seatwork habits. Hence, the positive relationship for these variables is not surprising. The negative relationship between teacher concern and student achievement, indicating that these students did worse than expected on the basis of their pretest scores, also seems reasonable. Concern students tended to lack confidence and to have poor seatwork habits and both of these characteristics might interfere with learning. It could also be that teachers were aware that certain students in their class had not "lived up to their full potential" and it may have been these students that the teachers indicated special concern for.

Conclusions

The results from this study indicate that within reading groups, teachers do treat students differently depending upon how they perceive them on certain characteristics. Although this study investigated relationships within reading groups and classes rather than pooling students across groups and classes as was done in previous studies, results from the two types of studies were surprisingly consistent.

In both types of studies, concern students had higher rates of interaction with the teacher, but these students were also given more terminating feedback in the form of the teacher simply supplying the answer when the student responded incorrectly. Rejection students, those the teacher would like removed from the class, also had more interactions with the teacher in both types of studies. Brophy, in his review of previous studies, states that rejection students were more active in the classroom in general. The present study found that these rejection students called out more answers out of turn which seems to support to some extent the greater activity of these students in the classroom.

Brophy also claims that previous studies have found students the teacher expressed strong liking for to be bright and conforming students. In this study, teacher liking was found to be strongly correlated with obedience and good seatwork habits. Previous studies had also found that teachers try to minimize contacts with students they like, and in the present study, teachers selected these students less often and provided them with fewer response opportunities in general. One final comment concerns the confident, outgoing students who were not identified in previous studies. These students called out answers more frequently but were less likely to be selected to respond by the teacher. These students also answered more questions correctly.

Evidence from several studies indicates that teachers do treat students differently and it has been suggested that this is because they are adjusting their teaching to the different needs of their students. Accordingly, the next step in this area of research is to determine whether students with different characteristics do react differently in terms of achievement to the same teacher behavior. In other words, is this differential treatment beneficial to the students in terms of achievement, e.g., does the outgoing student need to be treated differently from the introverted student in order to maximize achievement?

It is probably not possible to detect such an interaction between teacher behavior and student characteristics with naturalistic data for the very reason that teachers do treat students differently. In order to investigate such an interaction, the teacher would have to treat students of different characteristics similarly so that it would be possible to determine whether the students were differentially affected by this same treatment. This would require an experimental study and even with such a study, it might prove difficult to detect an interaction because of the strong correlation between

teacher ratings of students and student achievement. The strong relationship between pretest scores and student achievement, and between teacher ratings and student achievement, leaves only a small amount of variance in student achievement scores unaccounted for which could be used to detect an interaction between the teacher rating of students and teacher behaviors.

Reference Notes

1. Brophy, J. The student as unit of analysis. Paper presented at the Annual Meeting of the American Educational Research Association, New York, April, 1977.
2. Martin, J., Veldman, D., & Anderson, L. Within-class analyses of relationships between student achievement and teacher behaviors (R&D Rep. No. 4075). Austin, Texas: Research and Development Center for Teacher Education, The University of Texas at Austin, 1979.
3. Anderson, L., Evertson, C., & Brophy, J. The First-grade Reading Group Study: Technical report of experimental effects and process-outcome relationships (R&D Rep. No. 4070). Austin, Texas: Research and Development Center for Teacher Education, The University of Texas at Austin, 1979.

References

- Anderson, L., Evertson, C., & Brophy, J. An Experimental study of effective teaching in first-grade reading groups. Elementary School Journal, 1979, 79, 192-223.
- Brophy, J., & Good, T. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart, & Winston, 1974.
- Evertson, C., Brophy, J., & Good, T. Communication of teacher expectations: Second grade. Rep. No. 92, Research and Development Center for Teacher Education, The University of Texas at Austin, 1973.
- Good, T., & Brophy, J. Behavioral expression of teacher attitudes. Journal of Educational Psychology, 1972a, 63, 517-624.
- Good, T., & Power, C. Designing successful classroom environments for different types of students. Journal of Curriculum Studies, 1976, 8, 45-60.
- Jenkins, B. Teachers' views of particular students and their behavior in the classroom. Unpublished doctoral dissertation, The University of Chicago, 1972.
- Silberman, M. Behavioral expression of teachers' attitudes toward elementary school students. Journal of Educational Psychology, 1969, 60, 402-407.

Table 1
Relationship of Teacher Ratings of Obedience to Classroom Behaviors

<u>Classroom Behaviors</u>	<u>Difference in R²</u>	<u>Beta</u>	<u>p Value</u>
Total Response Opportunities per minute	.0098	-.1061	< .01 **
Non-turn Response Opportunities per minute	.0051	-.0767	< .01 **
Total initial selections that were ordered	.0005	.0231	.10
Total initial selections that were preselections	.0004	-.0223	.51
Total initial selections that were nonvolunteer	.0000	.0006	.98
Total initial selections that were volunteer	.0033	.0613	.10
Total initial selections that were call outs	.0225	-.1611	< .01 **
Total Response Opportunities with correct answers	.0098	.1062	.05 *
Total Response Opportunities with incorrect answers	.0145	-.1292	.01 *
Correct answers with praise feedback	.0009	-.0321	.42
Incorrect answers with criticism feedback	.0112	-.1143	.04 *
Incorrect answers with give answer feedback	.0000	.0049	.92
Incorrect answers with clue feedback	.0015	.0423	.43
Total incorrect responses with sustaining feedback	.0019	.0469	.39
Total incorrect answers with terminating feedback	.0061	-.0837	.12

* = < .05 and ≥ .01 level of significance

** = < .01 level of significance

Table 2

Relationship of Teacher Ratings of Good Seatwork Habits to Classroom Behaviors

<u>Classroom Behaviors</u>	<u>Difference in R^2</u>	<u>Beta</u>	<u>p Value</u>
Total Response Opportunities per minute	.0073	-.0946	< .01 **
Non-turn Response Opportunities per minute	.0027	-.0572	.03 *
Total initial selections that were ordered	.0003	.0178	.22
Total initial selections that were preselections	.0008	-.0312	.37
Total initial selections that were nonvolunteer	.0012	-.0390	.23
Total initial selections that were volunteer	.0097	.1097	< .01 **
Total initial selections that were call outs	.0136	-.1299	.01 *
Total Response Opportunities with correct answers	.0118	.1214	.03 *
Total Response Opportunities with incorrect answers	.0163	-.1425	< .01 **
Correct answers with praise feedback	.0045	-.0747	.07
Incorrect answers with criticism feedback	.0102	-.1128	.04 *
Incorrect answers with give answer feedback	.0001	-.0084	.87
Incorrect answers with clue feedback	.0025	.0554	.31
Total incorrect responses with sustaining feedback	.0019	.0487	.39
Total incorrect answers with terminating feedback	.0132	-.1282	.02 *

Table 3

Relationship of Teacher Liking of Student to Classroom Behaviors

<u>Classroom Behaviors</u>	<u>Difference in R^2</u>	<u>Beta</u>	<u>p Value</u>
Total Response Opportunities per minute	.0042	-.0711	.03 *
Non-turn Response Opportunities per minute	.0014	-.0405	.12
Total initial selections that were ordered	.0002	.0135	.35
Total initial selections that were preselections	.0000	.0031	.92
Total initial selections that were nonvolunteer	.0000	.0069	.82
Total initial selections that were volunteer	.0006	.0257	.52
Total initial selections that were call outs	.0110	-.1148	.02 *
Total Response Opportunities with correct answers	.0084	.1006	.06
Total Response Opportunities with incorrect answers	.0075	-.0948	.07
Correct answers with praise feedback	.0031	-.0605	.13
Incorrect answers with criticism feedback	.0092	-.1056	.06
Incorrect answers with give answer feedback	.0025	-.0549	.30
Incorrect answers with clue feedback	.0005	.0244	.65
Total incorrect responses with sustaining feedback	.0050	.0775	.15
Total incorrect answers with terminating feedback	.0135	-.1273	.02 *

Table 4

Relationship of Teacher Ratings of Confidence to Classroom Behaviors

<u>Classroom Behaviors</u>	<u>Difference in R^2</u>	<u>Beta</u>	<u>p Value</u>
Total Response Opportunities per minute	.0030	-.0643	.06
Non-turn Response Opportunities per minute	.0000	-.0054	.85
Total initial selections that were ordered	.0008	-.0337	.03 *
Total initial selections that were preselections	.0016	-.0479	.19
Total initial selections that were nonvolunteer	.0099	-.1175	< .001 **
Total initial selections that were volunteer	.0150	.1449	< .001 **
Total initial selections that were call outs	.0269	.1942	< .001 **
Total Response Opportunities with correct answers	.0674	.3074	< .001 **
Total Response Opportunities with incorrect answers	.0121	-.1304	.02 *
Correct answers with praise feedback	.0057	-.0893	.04 *
Incorrect answers with criticism feedback	.0002	-.0170	.77
Incorrect answers with give answer feedback	.0031	-.0651	.25
Incorrect answers with clue feedback	.0037	-.0710	.21
Total incorrect responses with sustaining feedback	.0007	-.0302	.62
Total incorrect answers with terminating feedback	.0018	.0505	.40

Table 5
Relationship of Teacher Ratings
of Student Extraversion to Classroom Behaviors

Classroom Behaviors	Difference in R^2	Beta	p Value
Total Response Opportunities per minute	.0030	.0582	.06
Non-turn Response Opportunities per minute	.0042	.0684	< .01 **
Total initial selections that were ordered	.0010	-.0108	.02 *
Total initial selections that were preselections	.0000	-.0050	.87
Total initial selections that were nonvolunteer	.0019	-.0470	.13
Total initial selections that were volunteer	.0001	-.0084	.82
Total initial selections that were call outs	.0519	.2432	< .001 **
Total Response Opportunities with correct answers	.0018	.0455	.40
Total Response Opportunities with incorrect answers	.0028	.0563	.28
Correct answers with praise feedback	.0001	-.0077	.84
Incorrect answers with criticism feedback	.0010	.0342	.54
Incorrect answers with give answer feedback	.0011	-.0352	.50
Incorrect answers with clue feedback	.0025	-.0536	.31
Total incorrect responses with sustaining feedback	.0000	-.0020	.97
Total incorrect answers with terminating feedback	.0009	.0320	.56

Table 6

Relationship of Teacher Ratings of Concern to Classroom Behavior

Classroom Behaviors	Difference in R^2	Beta	p Value
Total Response Opportunities per minute	.0046	.0832	.02 *
Non-turn Response Opportunities per minute	.0001	.0122	.69
Total initial selections that were ordered	.0002	-.0189	.24
Total initial selections that were preselections	.0051	.0881	.02 *
Total initial selections that were nonvolunteer	.0100	.1231	< .001 **
Total initial selections that were volunteer	.0073	-.1051	.02 *
Total initial selections that were call outs	.0101	-.1236	.03 *
Total Response Opportunities with correct answers	.0765	-.3407	< .001 **
Total Response Opportunities with incorrect answers	.0464	.2654	< .001 **
Correct answers with praise feedback	.0015	.0475	.29
Incorrect answers with criticism feedback	.0019	.0527	.40
Incorrect answers with give answer feedback	.0090	.1163	.05 *
Incorrect answers with clue feedback	.0002	.0154	.79
Total incorrect responses with sustaining feedback	.0064	-.0981	.11
Total incorrect answers with terminating feedback	.0099	.1225	.04 *

Table 7

Intercorrelation Matrix of Teacher Ratings of Students

	<u>Confidence</u>	<u>Extra- version</u>	<u>Obedience</u>	<u>Good Seatwork</u>	<u>Teacher Liking</u>	<u>Teacher Concern</u>
Confidence		.4915	.0538	.2921	.1577	-.4578
Extraversion			-.2911	-.0021	-.1109	-.2658
Obedience				.5032	.6075	-.2439
Good Seatwork					.4966	-.4379
Teacher Liking						-.3011
Teacher Concern						

Note: A correlation of .113 is significant at the .05 level and a correlation of .148 is significant at the .01 level.

Table 8

Relationship of Teacher Ratings of Students
to Student Achievement with Pretest Held Constant

<u>Teacher Rating</u>	<u>Difference in R^2</u>	<u>Beta</u>	<u>p Value</u>
Student Obedience	.0191	.1463	< .001
Good Seatwork Habits	.0289	.1875	< .001
Teacher Liking	.0164	.1410	< .001
Student Confidence	.0212	.1683	< .001
Student Extraversion	.0003	-.0209	.59
Teacher Concern	.0586	-.2969	< .001